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SESSION RESUMED IN FILE 'CAPLUS' AT 14:45:43 ON 04 OCT 2002
FILE 'CAPLUS' ENTERED AT 14:45:43 ON 04 OCT 2002
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=> d his

(FILE 'HOME' ENTERED AT 13:02:27 ON 04 OCT 2002)

FILE 'REGISTRY' ENTERED AT 13:02:40 ON 04 OCT 2002

L1 STR
L2 STR
L3 0 S L2
L4 11 S L2 FUL

FILE 'CHEMCATS' ENTERED AT 13:18:55 ON 04 OCT 2002

L5 6 S L4

FILE 'REGISTRY' ENTERED AT 13:22:18 ON 04 OCT 2002

FILE 'BEILSTEIN' ENTERED AT 13:46:49 ON 04 OCT 2002

L6 0 S L2 FUL

FILE 'REGISTRY' ENTERED AT 14:23:43 ON 04 OCT 2002

L7 2 S ASCORBIC ACID/CN

FILE 'CAPLUS' ENTERED AT 14:24:05 ON 04 OCT 2002

L8 57341 S SULFITE?
L9 664 S L7 AND L8
L10 859 S L7/P
L11 664 S L7 AND L8
L12 10 S L8 AND L10

=> fil reg

FILE 'REGISTRY' ENTERED AT 14:46:14 ON 04 OCT 2002
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Property values tagged with IC are from the ZIC/VINITI data file
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STRUCTURE FILE UPDATES: 3 OCT 2002 HIGHEST RN 459123-02-5
DICTIONARY FILE UPDATES: 3 OCT 2002 HIGHEST RN 459123-02-5

TSCA INFORMATION NOW CURRENT THROUGH MAY 20, 2002

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP
PROPERTIES for more information. See STNote 27, Searching Properties
in the CAS Registry File, for complete details:
<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>
'REGISTRY' IS DEFAULT FORMAT FOR 'REGISTRY' FILE

=> s sulfurous acid/cn
L13 1 SULFUROUS ACID/CN

=> fil caplus
FILE 'CAPLUS' ENTERED AT 14:46:36 ON 04 OCT 2002
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FILE COVERS 1907 - 4 Oct 2002 VOL 137 ISS 15
FILE LAST UPDATED: 3 Oct 2002 (20021003/ED)

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*** YOU HAVE NEW MAIL ***

=> s l13/cat
1771 L13
448937 CAT/RL
L14 69 L13/CAT
(L13 (L) CAT/RL)

=> s l10 and l14
L15 0 L10 AND L14

=> s sulfurous acid
4867 SULFUROUS
3445451 ACID
L16 2678 SULFUROUS ACID
(SULFUROUS (W) ACID)

=> s l16 and l10
222773 l10
L17 41 L16 AND l10

=> d tot ti can

L17 ANSWER 1 OF 41 CAPLUS COPYRIGHT 2002 ACS
TI Effect of Coadsorbed Species and Temperature on Competitive Reaction Channels for Nascent Radicals: c-C3H7CH2SH on Mo(110)-(6 .mu.e 1)-O
136:183478

L17 ANSWER 2 OF 41 CAPLUS COPYRIGHT 2002 ACS
TI Manufacture of acrylonitrile polymers with decreased water content
135:345181

L17 ANSWER 3 OF 41 CAPLUS COPYRIGHT 2002 ACS
TI Phosphates purification by removal of metal chromophores
133:60942

L17 ANSWER 4 OF 41 CAPLUS COPYRIGHT 2002 ACS
TI Vapor-liquid-solid equilibria of sulfur dioxide in aqueous electrolyte
solutions
132:283465

L17 ANSWER 5 OF 41 CAPLUS COPYRIGHT 2002 ACS
TI Three-step preparation of mechanical wood pulps with a chemical
intermediate stage with reduced energy
130:111699

L17 ANSWER 6 OF 41 CAPLUS COPYRIGHT 2002 ACS
TI Method for treating humidified incinerator flue gas by electron beam
irradiation and scrubbing
128:171511

L17 ANSWER 7 OF 41 CAPLUS COPYRIGHT 2002 ACS
TI Processing of fabrics by crosslinking of cellulosic fibers to give easy
care property, permanent press property, and shrink inhibition
125:278545

L17 ANSWER 8 OF 41 CAPLUS COPYRIGHT 2002 ACS
TI Process for removal of aldehyde impurities from
oxo(phenylmethylene)alkanoates
125:142282

L17 ANSWER 9 OF 41 CAPLUS COPYRIGHT 2002 ACS
TI Purification of (N-alkyl) aminoethanesulfonic acid alkali metal salts
124:145430

L17 ANSWER 10 OF 41 CAPLUS COPYRIGHT 2002 ACS
TI Process for reducing moisture absorption of sintered polybenzimidazole
products
120:246958

L17 ANSWER 11 OF 41 CAPLUS COPYRIGHT 2002 ACS
TI Preparation of alkyl glycosides in one step.
118:147975

L17 ANSWER 12 OF 41 CAPLUS COPYRIGHT 2002 ACS
TI Acid-processing of aluminum-bearing layered minerals
116:238432

L17 ANSWER 13 OF 41 CAPLUS COPYRIGHT 2002 ACS
TI Effect of temperature and ionic impurities at very low concentrations on
stress corrosion cracking of AISI 304 stainless steel
110:42735

L17 ANSWER 14 OF 41 CAPLUS COPYRIGHT 2002 ACS
TI Laboratory investigation of **sulfurous acid** leaching of
kaolin for preparing alumina
96:9853

L17 ANSWER 15 OF 41 CAPLUS COPYRIGHT 2002 ACS
TI Studies on lignin. 110. Studies on water solubilization of
lignin. 1
93:48804

L17 ANSWER 16 OF 41 CAPLUS COPYRIGHT 2002 ACS
TI The effect of various methods for sweetening wines or **sulfurous**

acid content and sensory evaluation

88:4690

L17 ANSWER 17 OF 41 CAPLUS COPYRIGHT 2002 ACS

TI Manufacture of paper pulp with a very high yield

87:203326

L17 ANSWER 18 OF 41 CAPLUS COPYRIGHT 2002 ACS

TI Two-stage sulfite method for the delignification of spruce and pinewood

82:141832

L17 ANSWER 19 OF 41 CAPLUS COPYRIGHT 2002 ACS

TI Wood pulping

77:103572

L17 ANSWER 20 OF 41 CAPLUS COPYRIGHT 2002 ACS

TI White pulp for paper

74:113483

L17 ANSWER 21 OF 41 CAPLUS COPYRIGHT 2002 ACS

TI Sulfonation of synthetic fatty acids, natural and synthetic fats with sodium bisulfite

70:97977

L17 ANSWER 22 OF 41 CAPLUS COPYRIGHT 2002 ACS

TI Aryl esters of carboxylic acids

70:77610

L17 ANSWER 23 OF 41 CAPLUS COPYRIGHT 2002 ACS

TI Optically active organic sulfites: sulfur as an asymmetric center

70:11254

L17 ANSWER 24 OF 41 CAPLUS COPYRIGHT 2002 ACS

TI Geochemical studies on Tamagawa Hot Spring

63:70576

L17 ANSWER 25 OF 41 CAPLUS COPYRIGHT 2002 ACS

TI Potentiometric determinations of **sulfurous acid** and lime in tower acid and in cooking liquor

60:10506

L17 ANSWER 26 OF 41 CAPLUS COPYRIGHT 2002 ACS

TI .alpha.-Halogenated amines. X. The reaction of amins and .alpha.-dialkylamino ethers with inorganic acid halides

58:3214

L17 ANSWER 27 OF 41 CAPLUS COPYRIGHT 2002 ACS

TI Decomposition of kaolin with **sulfurous acid** in a continuous process

56:77834

L17 ANSWER 28 OF 41 CAPLUS COPYRIGHT 2002 ACS

TI Spirocyclic esters of **sulfurous acid** as pesticides

50:61918

L17 ANSWER 29 OF 41 CAPLUS COPYRIGHT 2002 ACS

TI Vat dyes containing sulfur

49:18182

L17 ANSWER 30 OF 41 CAPLUS COPYRIGHT 2002 ACS

TI Protein hydrolysis. II. Use of **sulfurous acid** for the control of humin formation and loss of tryptophan during acid hydrolysis

49:16351

L17 ANSWER 31 OF 41 CAPLUS COPYRIGHT 2002 ACS
TI Polyfluoroethane sulfonyl compounds
41:11924

L17 ANSWER 32 OF 41 CAPLUS COPYRIGHT 2002 ACS
TI The catalytic action of Japanese acid earth. XI. The isomerization of aldehydes to ketones and the explanation of the migration of the radicals from the standpoint of the electronic theory
36:29158

L17 ANSWER 33 OF 41 CAPLUS COPYRIGHT 2002 ACS
TI Esters of **sulfurous acid**. IV. Action of sulfurous esters on amino acids
31:24938

L17 ANSWER 34 OF 41 CAPLUS COPYRIGHT 2002 ACS
TI Behavior of cellulose toward bisulfite liquor and **sulfurous acid** solution. I. Experiments at 110.degree.
24:45571

L17 ANSWER 35 OF 41 CAPLUS COPYRIGHT 2002 ACS
TI Electrical conductivity studies of the interaction of **sulfurous acid** and certain aldehydes
24:41012

L17 ANSWER 36 OF 41 CAPLUS COPYRIGHT 2002 ACS
TI Contribution to the study of the use of **sulfurous acid** in wine making. II. Use of **sulfurous acid** as a preservative in grape musts and in sweet white wines
22:20776

L17 ANSWER 37 OF 41 CAPLUS COPYRIGHT 2002 ACS
TI The action of aqueous **sulfurous acid** on lignocellulose. II
19:21079

L17 ANSWER 38 OF 41 CAPLUS COPYRIGHT 2002 ACS
TI Action of aqueous **sulfurous acid** on lignocellulose
18:22510

L17 ANSWER 39 OF 41 CAPLUS COPYRIGHT 2002 ACS
TI Lignone derivatives; cellulose; **sulfurous acid**; tanning
18:2167

L17 ANSWER 40 OF 41 CAPLUS COPYRIGHT 2002 ACS
TI Aldehydes of the pyridine and piperidine series
9:17596

L17 ANSWER 41 OF 41 CAPLUS COPYRIGHT 2002 ACS
TI Aldehydosulfites of Vegetable Alkaloids
5:15300

=> fil stnindex
TO ENTER STNINDEX, USE THE 'INDEX' COMMAND
ENTER THE FILES OR CLUSTERS YOU WISH TO USE.
SESSION CONTINUES IN FILE 'CAPLUS'

=> fil stnguide
FILE 'STNGUIDE' ENTERED AT 14:56:48 ON 04 OCT 2002
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FILE CONTAINS CURRENT INFORMATION.
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=> fil caplus
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FILE COVERS 1907 - 4 Oct 2002 VOL 137 ISS 15
FILE LAST UPDATED: 3 Oct 2002 (20021003/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

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=> d 117 5 cbib abs

L17 ANSWER 5 OF 41 CAPLUS COPYRIGHT 2002 ACS
1999:64648 Document No. 130:111699 Three-step preparation of mechanical wood pulps with a chemical intermediate stage with reduced energy. Barnet, Adrian J. (Donohue Inc., Can.). Eur. Pat. Appl. EP 892107 A1 19990120, 22 pp. DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO. (English). CODEN: EPXXDW. APPLICATION: EP 1998-305702 19980716. PRIORITY: US 1997-52924 19970717.
AB A refiner mech. pulp having substantially the same overall pulp quality as com. thermomech. pulps is produced by disk refining of unsoftened wood chips at .ltoreq..apprx.0.75 MWh/odt, treating the pulp with a sol. salt of **sulfurous acid** at >110.degree. and superatm. pressure while maintaining the pH at >3 with alkali to 0.3-2 wt.% sulfonation and >85 wt.% chem. treated pulp yield, and mech. refining the pulp to Canadian std. freeness 50-700.

=> s 110 and 116
L18 1 L10 AND L16

=> d cbib abs

L18 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2002 ACS
2002:504774 Document No. 137:63425 Process for producing ascorbic acid in the presence of a sulfite. Arumugam, Bhaskar; Collins, Nick; Boyd, Brendan; Perri, Steven; Powell, Jeffery; Cushman, Michael (Eastman Chemical Company, USA). PCT Int. Appl. WO 2002051827 A1 20020704, 44 pp. DESIGNATED STATES: W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE,

GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG, TR. (English). CODEN: PIXXD2. APPLICATION: WO 2001-US49859 20011221. PRIORITY: US 2000-PV257991 20001222; US 2001-PV314999 20010824.

AB The present invention comprises the use of sulfite additives to reduce discoloration of L-ascorbic acid produced from acid or aq. solns. of 2-keto-L-gulonic acid. In one aspect, the present invention comprises a continuous process for producing L-ascorbic acid from an aq. soln. of 2-keto-L-gulonic acid. The use of sulfite additives reduces product stream color and improves product recovery by binding to high mol. wt. reaction byproducts. In a continuous process, the reaction stream is sep'd. from residual sulfite and sulfite-bound byproducts to produce a product stream enriched in aq. ascorbic acid for recovery, and an enriched 2-keto-L-gulonic acid stream which is recycled to the reactor. The in situ use of sulfite additives during the reaction increases the overall yield of L-ascorbic acid, with no loss in selectivity of the synthesis.

=> fil beil

FILE 'BEILSTEIN' ENTERED AT 15:01:48 ON 04 OCT 2002

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FILE RELOADED ON APRIL 8, 2002

FILE COVERS 1779 TO 2001.

*** FILE CONTAINS 8,128,462 SUBSTANCES ***

>>> For the revised summary sheet please see:

<http://info.cas.org/ONLINE/DBSS/beilsteinss.html> <<<

>>> PLEASE NOTE: Reaction and substance documents are stored in different file segments. Use separate queries to search for reaction and substance data. When searching for bibliographic information you have the option to chose the file segment. (Use "/XXX.SUB" to search for a bibliographic term in substance documents. To restrict the search to reaction documents use "/XXX.RX".)

For additional information see HELP RXS. <<<

>>> FOR SEARCHING PREPARATIONS SEE HELP PRE <<<

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*** YOU HAVE NEW MAIL ***

=> s ascorbic acid/cn

L19 5 ASCORBIC ACID/CN

=> d fa

L19 ANSWER 1 OF 5 BEILSTEIN COPYRIGHT BEILSTEIN CDS MDL

Field Availability:

Code	Name	Occurrence
BRN	Beilstein Records	1
CN	Chemical Name	1
AUN	Autonomname	1
MF	Molecular Formula	1
FW	Formular Weight	1
LN	Lawson Number	1
FS	File Segment	1
CTYPE	Compound Type	1
CONSID	Constitution ID	1
TAUTID	Tautomer ID	1
BSO	Beilstein Citation	1
ED	Entry Date	1
UPD	Update Date	1
CDER	Chemical Derivative	1

=> d brn

L19 ANSWER 1 OF 5 BEILSTEIN COPYRIGHT 2002 BEILSTEIN CDS MDL

Beilstein Records (BRN): 6504350

=> d 2-5 fa

L19 ANSWER 2 OF 5 BEILSTEIN COPYRIGHT BEILSTEIN CDS MDL

Field Availability:

Code	Name	Occurrence
BRN	Beilstein Records	1
RN	CAS Registry Number	8
CN	Chemical Name	1
AUN	Autonomname	1
MF	Molecular Formula	1
FW	Formular Weight	1
LN	Lawson Number	1
FS	File Segment	1
CTYPE	Compound Type	1
CONSID	Constitution ID	1
TAUTID	Tautomer ID	1
BSO	Beilstein Citation	2
ED	Entry Date	1
UPD	Update Date	1
DE	Dissociation Exponent	1
ELCB	Electrochemical Behaviour	1
REAX	Use D FRX for Non-Graphical Reactions	2

This substance also occurs in Reaction Documents:

Code	Name	Occurrence
RX	Reaction Documents	2
RXREA	Substance is Reaction Reactant	2

L19 ANSWER 3 OF 5 BEILSTEIN COPYRIGHT BEILSTEIN CDS MDL

Field Availability:

Code	Name	Occurrence
BRN	Beilstein Records	1
BPR	Beilstein Preferred RN	1
RN	CAS Registry Number	7
CN	Chemical Name	1
AUN	Autonomname	1
LSF	Linearized Structure Formula	1
MF	Molecular Formula	1
FW	Formular Weight	1
LN	Lawson Number	1
FS	File Segment	1
CTYPE	Compound Type	1
CONSID	Constitution ID	1
TAUTID	Tautomer ID	1
BSO	Beilstein Citation	1
ED	Entry Date	1
UPD	Update Date	1
ELCB	Electrochemical Behaviour	1
PHARM	Pharmacological Data	1
POT	Electrochemical Characteristics	3
UVS	UV and Visible Spectrum	2

This substance also occurs in Reaction Documents:

Code	Name	Occurrence
RX	Reaction Documents	4
RXREA	Substance is Reaction Reactant	4

L19 ANSWER 4 OF 5 BEILSTEIN COPYRIGHT BEILSTEIN CDS MDL

Field Availability:

Code	Name	Occurrence
BRN	Beilstein Records	1
BPR	Beilstein Preferred RN	1
RN	CAS Registry Number	8
CN	Chemical Name	2
AUN	Autonomname	1
MF	Molecular Formula	1
FW	Formular Weight	1
LN	Lawson Number	1
CTYPE	Compound Type	1
BSO	Beilstein Citation	2
ED	Entry Date	1
UPD	Update Date	1
CDISP	Compound Disposition	1
ASSM	Association (MCS)	1
CDER	Chemical Derivative	11
DE	Dissociation Exponent	1
DIC	Dielectric Constant	1
ELCB	Electrochemical Behaviour	2
ELE	Electrical Data (MCS)	1
ESR	ESR Data	1
FINFO	Further Information	2
INP	Isolation from Natural Product	2
IR	Infrared Spectrum	3
LUM	Luminescence	1

MP	Melting Point	3
MS	Mass Spectrum	3
NMR	Nuclear Magnetic Resonance	4
ORP	Optical Rotatory Power	2
PHARM	Pharmacological Data	2
POT	Electrochemical Characteristics	6
REAX	Use D FRX for Non-Graphical Reactions	30
TRAM	Transport Phenomena (MCS)	1
UVS	UV and Visible Spectrum	3
XREF	Crossfile Reference	1

This substance also occurs in Reaction Documents:

Code	Name	Occurrence
RX	Reaction Documents	2
RXREA	Substance is Reaction Reactant	2

L19 ANSWER 5 OF 5 BEILSTEIN COPYRIGHT BEILSTEIN CDS MDL

Field Availability:

Code	Name	Occurrence
BRN	Beilstein Records	1
BPR	Beilstein Preferred RN	1
RN	CAS Registry Number	8
CN	Chemical Name	7
AUN	Autonomname	1
MF	Molecular Formula	1
FW	Formular Weight	1
LN	Lawson Number	1
FS	File Segment	1
CTYPE	Compound Type	1
CONSID	Constitution ID	1
TAUTID	Tautomer ID	1
BSO	Beilstein Citation	3
ED	Entry Date	1
UPD	Update Date	1
ADSM	Adsorption (MCS)	3
ASSM	Association (MCS)	48
BIO	Biological Behaviour	1
CDEN	Density (Crystal)	4
CDER	Chemical Derivative	35
CDIC	Circular Dichroism	2
CNF	Conformation	2
COEV	Concentration in Environment	1
CRYPH	Crystal Phase	4
CSG	Crystal Space Group	2
CSYS	Crystal System	1
DE	Dissociation Exponent	31
DM	Dipole Moment	3
ECTOX	Ecotoxicology	20
ELCB	Electrochemical Behaviour	6
ELE	Electrical Data (MCS)	3
ENEM	Energy Data (MCS)	5
EOD	Oxygen Demand	3
ESR	ESR Data	3
FINFO	Further Information	2
FLU	Fluorescence	1
GEO	Interatomic Distanc and Angle	4
HCOM	Enthalpy of Combustion	1
HFOR	Enthalpy of Formation	1

INP	Isolation from Natural Product	13
IR	Infrared Spectrum	15
LSSM	Liquid/Solid System (MCS)	8
LUM	Luminescence	1
LVSM	Liquid/Vapour System (MCS)	1
MEC	Mechanical Property	1
MECM	Mechanical & Physical Property (MCS)	2
MP	Melting Point	13
MS	Mass Spectrum	3
MSUS	Magnetic Susceptibility	1
NMR	Nuclear Magnetic Resonance	29
OPT	Optics	4
ORD	Optical Rotatory Dispersion	8
ORP	Optical Rotatory Power	28
OTHE	Other Thermochemical Data	1
PHARM	Pharmacological Data	292
POT	Electrochemical Characteristics	22
PUR	Purification	1
RAS	Raman Spectrum	6
RSTR	Related Structure	2
SDIF	Self Diffusion	2
SLB	Solubility (MCS)	6
SOLM	Solution Behaviour (MCS)	1
TRAM	Transport Phenomena (MCS)	6
USC	Use of Compound	8
UVS	UV and Visible Spectrum	46
XREF	Crossfile Reference	17

This substance also occurs in Reaction Documents:

Code	Name	Occurrence
RX	Reaction Documents	274
RXREA	Substance is Reaction Reactant	256
RXPRO	Substance is Reaction Product	18

=> d 5 rxpro

L19 ANSWER 5 OF 5 BEILSTEIN COPYRIGHT 2002 BEILSTEIN CDS MDL

Reaction:

RX

Reaction ID:	8727431
Reactant BRN:	8734549
Reactant:	3,4-dihydroxy-5R-<2(R,S)-(6-hydroxy-2,5,7,8-tetramethylchroman-2(R and S)yl-methyl)-<1,3>dioxolan-4S-yl>-5H-furan-2-one
Product BRN:	8702333, 84272
Product:	(6-hydroxy-2,5,7,8-tetramethyl-chroman-2-yl)-acetaldehyde, (R)-5-((S)-1,2-dihydroxyethyl)-3,4-dihydroxy-5H-furan-2-one
No. of Reaction Details:	1

Reaction Details:

RX

Reaction RID:	8727431.1
Reaction Classification:	Chemical behaviour
Reagent:	H2O
Temperature:	37 Cel
pH Value:	3
Subject Studied:	Kinetics

Prototype Reaction: Further Variations:, pH-values

Reference(s):

1. Manfredini, Stefano; Vertuani, Silvia; Manfredi, Barbara; Rossoni, Giuseppe; Calviello, Gabriella; Palozza, Paola, Bioorg.Med.Chem., CODEN: BMECEP, 8(12), <2000>, 2791 - 2802; BABS-6262051

Reaction:

RX

Reaction ID: 8263375
Reactant BRN: 1718733, 3154831
Reactant: NaHCO₃, ethanol, L-xylo-<2>hexulosonic acid phenethyl ester
Product BRN: 84272
Product: (R)-5-((S)-1,2-dihydroxy-ethyl)-3,4-dihydroxy-5H-furan-2-one
No. of Reaction Details: 1

Reaction Details:

RX

Reaction RID: 8263375.1
Reaction Classification: Chemical behaviour
Note(s): Handbook
Reference(s):
1. Patent: Hoffmann-La Roche US 2265121 1936

Reaction:

RX

Reaction ID: 7065387
Reactant BRN: 1727055
Reactant: aqueous hydrochloric acid <11 n>, L-xylo-<2>hexulosonic acid methyl ester
Product BRN: 84272
Product: (R)-5-((S)-1,2-dihydroxy-ethyl)-3,4-dihydroxy-5H-furan-2-one
No. of Reaction Details: 1

Reaction Details:

RX

Reaction RID: 7065387.1
Reaction Classification: Chemical behaviour
Temperature: 60 Cel
Other Conditions: Auch bei 70 gradC.
Subject Studied: Rate constant
Note(s): Handbook
Reference(s):
1. Wechsler; Schaltyko, Zh.Obshch.Khim., CODEN: ZOKHA4, 26, <1956>, 1456, 1459; engl. Ausg. S. 1639, 1642

Reaction:

RX

Reaction ID: 7065386
Reactant BRN: 1718793, 4652394, 3587155, 1723811
Reactant: hydrogen cyanide, hydrocyanic acid; potassium salt, water, L-threo-<2>pentosulose
Product BRN: 84272
Product: (R)-5-((S)-1,2-dihydroxy-ethyl)-3,4-dihydroxy-5H-furan-2-one
No. of Reaction Details: 1

Reaction Details:

RX

Reaction RID: 7065386.1
Reaction Classification: Chemical behaviour

Other Conditions: Beim anschliessenden Erwaermen mit
wss.Salzsaeure
Note(s): Handbook
Reference(s):
1. Reichstein et al., Helv.Chim.Acta, CODEN: HCACAV, 16, <1933>
1019,1027,1030

Reaction:

RX

Reaction ID: 7065385
Reactant BRN: 1098214, 3587155, 1726798
Reactant: hydrochloric acid, water,
L-xylono-<2>hexulosonic acid
Product BRN: 84272
Product: (R)-5-((S)-1,2-dihydroxy-ethyl)-3,4-
dihydroxy-5H-furan-2-one
No. of Reaction Details: 1

Reaction Details:

RX

Reaction RID: 7065385.1
Reaction Classification: Chemical behaviour
Temperature: 60 Cel
Other Conditions: und 70grad
Subject Studied: Rate constant
Note(s): Handbook
Reference(s):
1. Weksler; Schaltyko, Zh.Obshch.Khim., CODEN: ZOKHA4, 26, <1956>, 1458,
1459; engl. Ausg. S. 1639, 1642
2. Regna; Caldwell, J.Amer.Chem.Soc., CODEN: JACSAT, 66, <1944>, 246, 249

Reaction:

RX

Reaction ID: 5708398
Reactant BRN: 1761503
Reactant: tetra-O-acetyl-L-xylononitrile, oxomalonic
acid monoethyl ester
Product BRN: 84272
Product: (R)-5-((S)-1,2-dihydroxy-ethyl)-3,4-
dihydroxy-5H-furan-2-one
No. of Reaction Details: 1

Reaction Details:

RX

Reaction RID: 5708398.1
Reaction Classification: Preparation
Reagent: sodium methylate, methanol
Note(s): Handbook
Reference(s):
1. Patent: Winthrop Chem. Co. US 2207680 1939
2. Patent: I.G. Farbenind. DE 683954 1936, DRP/DRBP Org.Chem.

Reaction:

RX

Reaction ID: 5708397
Reactant BRN: 1703574
Reactant: tetra-O-acetyl-L-xylononitrile,
ethoxy-hydroxy-acetic acid ethyl ester
Product BRN: 84272
Product: (R)-5-((S)-1,2-dihydroxy-ethyl)-3,4-
dihydroxy-5H-furan-2-one
No. of Reaction Details: 1

Reaction Details:

RX

Reaction RID: 5708397.1
Reaction Classification: Preparation
Reagent: sodium methylate, methanol
Note(s): Handbook
Reference(s):
1. Stedehouder, Recl.Trav.Chim.Pays-Bas, CODEN: RTCPA3, 71, <1952>, 831, 835

Reaction:

RX

Reaction ID: 5708396
Reactant BRN: 1209486
Reactant: tetra-O-acetyl-L-xylononitrile, oxoacetic acid ethyl ester
Product BRN: 84272
Product: (R)-5-((S)-1,2-dihydroxy-ethyl)-3,4-dihydroxy-5H-furan-2-one
No. of Reaction Details: 1

Reaction Details:

RX

Reaction RID: 5708396.1
Reaction Classification: Preparation
Reagent: sodium methylate, methanol
Note(s): Handbook
Reference(s):
1. Helferich; Peters, Chem.Ber., CODEN: CHBEAM, 70, <1937>, 465, 468

Reaction:

RX

Reaction ID: 5708395
Reactant BRN: 3587155, 84277
Reactant: platinum, water, (R)-5-((S)-1,2-dihydroxy-ethyl)-furan-2,3,4-trione
Product BRN: 84272
Product: (R)-5-((S)-1,2-dihydroxy-ethyl)-3,4-dihydroxy-5H-furan-2-one
No. of Reaction Details: 1

Reaction Details:

RX

Reaction RID: 5708395.1
Reaction Classification: Chemical behaviour
Other Conditions: in Gegenwart von Riboflavin.Hydrogenation
Note(s): Handbook
Reference(s):
1. Hand; Greisen, J.Amer.Chem.Soc., CODEN: JACSAT, 64, <1942>, 358

Reaction:

RX

Reaction ID: 5708394
Reactant: 02,03;04,06-diisopropylidene-.xi.-L-xylo-<2>hexofuranosonic acid-monohydrate
Product BRN: 84272
Product: (R)-5-((S)-1,2-dihydroxy-ethyl)-3,4-dihydroxy-5H-furan-2-one
No. of Reaction Details: 3

Reaction Details:

RX

Reaction RID: 5708394.1
Reaction Classification: Preparation (half reaction)
Reagent: butan-1-ol, HCl, benzene

Note(s): Handbook

Reference(s):

1. Sano; Watanabe, Takamine Kenkyusho Nempo, CODEN: TKNEAI, 7, <1955>, 27, Chem.Abstr., <1956>, 14540

RX

Reaction RID: 5708394.2

Reaction Classification: Preparation (half reaction)

Reagent: HCl, water

Note(s): Handbook

Reference(s):

1. Patent: Hoffmann-La Roche US 2443487 1945
2. Slobodin; Basowa, Zh.Prikl.Khim.(Leningrad), CODEN: ZPKHAB, 19, <1946>, 172, 174, Chem.Abstr., <1947>, 2395
3. Patent: Merck & Co. Inc. US 2444087 1945
4. Patent: Merck,E. DE 676011 1935, Fortschr.Teerfarbenfabr.Verw.Industrie zweige, 25, 425
5. Reichstein; Gruessner, Helv.Chim.Acta, CODEN: HCACAV, 17, <1934>, 311, 326

RX

Reaction RID: 5708394.3

Reaction Classification: Preparation (half reaction)

Reagent: ethanol, HCl

Note(s): Handbook

Reference(s):

1. Rumpf; Marlier, Bull.Soc.Chim.Fr., CODEN: BSCFAS, <1959>, 187, 190
2. Beresowskii; Strel'tschunas, Zh.Obshch.Khim., CODEN: ZOKHA4, 20, <1950>, 2072, 2075; engl. Ausg. S. 2145, 2147
3. Maximow et al., Zh.Obshch.Khim., CODEN: ZOKHA4, 9, <1939>, 936, 942, Chem.Zentralbl., CODEN: CHZEA6, 111(I), <1940>, 872
4. Elger, Festschrift E. Barell <Basel 1936> S. 229, 236
5. Patent: Hoffmann-La Roche US 2129317 1936

Reaction:

RX

Reaction ID: 5708393

Reactant: 02,03;04,06-diisopropylidene-.xi.-L-xylo-<2>hexofuranosonic acid methyl ester

Product BRN: 84272

Product: (R)-5-((S)-1,2-dihydroxy-ethyl)-3,4-dihydroxy-5H-furan-2-one

No. of Reaction Details: 1

Reaction Details:

RX

Reaction RID: 5708393.1

Reaction Classification: Preparation (half reaction)

Reagent: HCl, water, ethanol

Note(s): Handbook

Reference(s):

1. Patent: Hoffmann-La Roche DE 641639 1935, Fortschr.Teerfarbenfabr.Verw. Industriezweige, 23, 615

Reaction:

RX

Reaction ID: 5708392

Reactant BRN: 29883

Reactant: aqueous hydrochloric acid (5n), 02,03;04,06-diisopropylidene-.alpha.-L-xylo-<2>hexulofuranosonic acid

Product BRN: 84272

Product: (R)-5-((S)-1,2-dihydroxy-ethyl)-3,4-dihydroxy-5H-furan-2-one

No. of Reaction Details: 2

Reaction Details:

RX

Reaction RID: 5708392.1
Reaction Classification: Chemical behaviour
Temperature: 60 Cel
Subject Studied: Rate constant
Note(s): Handbook
Reference(s):
1. Weksler; Schaltyko, Zh.Obshch.Khim., CODEN: ZOKHA4, 26, <1956>, 1456, 1459; engl. Ausg. S. 1639, 1642

RX

Reaction RID: 5708392.2
Reaction Classification: Chemical behaviour
Temperature: 70 Cel
Subject Studied: Rate constant
Note(s): Handbook
Reference(s):
1. Weksler; Schaltyko, Zh.Obshch.Khim., CODEN: ZOKHA4, 26, <1956>, 1456, 1459; engl. Ausg. S. 1639, 1642

Reaction:

RX

Reaction ID: 5708391
Reactant BRN: 29883
Reactant: aqueous hydrochloric acid (11n),
02,03;04,06-diisopropylidene-.alpha.-L-xylo-
<2>hexulofuranosonic acid
Product BRN: 84272
Product: (R)-5-((S)-1,2-dihydroxy-ethyl)-3,4-
dihydroxy-5H-furan-2-one
No. of Reaction Details: 2

Reaction Details:

RX

Reaction RID: 5708391.1
Reaction Classification: Chemical behaviour
Temperature: 60 Cel
Subject Studied: Rate constant
Note(s): Handbook
Reference(s):
1. Weksler; Schaltyko, Zh.Obshch.Khim., CODEN: ZOKHA4, 24, <1954>, 1422, 1426; engl. Ausg. S. 1403, 1405

RX

Reaction RID: 5708391.2
Reaction Classification: Chemical behaviour
Temperature: 70 Cel
Subject Studied: Rate constant
Note(s): Handbook
Reference(s):
1. Weksler; Schaltyko, Zh.Obshch.Khim., CODEN: ZOKHA4, 24, <1954>, 1422, 1426; engl. Ausg. S. 1403, 1405

Reaction:

RX

Reaction ID: 5708390
Reactant BRN: 506006, 3587155, 84277
Reactant: thioacetamide, water, (R)-5-((S)-1,2-
dihydroxy-ethyl)-furan-2,3,4-trione
Product BRN: 84272
Product: (R)-5-((S)-1,2-dihydroxy-ethyl)-3,4-
dihydroxy-5H-furan-2-one
No. of Reaction Details: 1

Reaction Details:

RX

Reaction RID: 5708390.1
Reaction Classification: Chemical behaviour
Note(s): Handbook
Reference(s):
1. Wendland, Arch.Pharm.(Weinheim Ger.), CODEN: ARPMAS, 286, <1953>, 158, 162

Reaction:

RX

Reaction ID: 5708389
Reactant BRN: 3587155, 3535004, 84277
Reactant: water, H₂S, (R)-5-((S)-1,2-dihydroxy-ethyl)-furan-2,3,4-trione
Product BRN: 84272
Product: (R)-5-((S)-1,2-dihydroxy-ethyl)-3,4-dihydroxy-5H-furan-2-one
No. of Reaction Details: 1

Reaction Details:

RX

Reaction RID: 5708389.1
Reaction Classification: Chemical behaviour
Note(s): Handbook
Reference(s):
1. Levenson et al., Arch.Biochem., CODEN: ARBIAE, 33, <1951>, 50, 52
2. Huelin, Austral. J. scient. Res. , 2, <1949>, 346, 347
3. Roe et al., J.Biol.Chem., CODEN: JBCHA3, 174, <1948>, 201, 204
4. Fujita; Ebihara, Biochem.Z., CODEN: BIZEA2, 300, <1939>, 136, 141
5. Ghosh; Rakshit, Biochem.Z., CODEN: BIZEA2, 299, <1938>, 394, 401
6. Herbert et al., J.Chem.Soc., CODEN: JCSOA9, <1933>, 1270, 1282

Reaction:

RX

Reaction ID: 5708388
Reactant BRN: 1729812, 3587155, 84277
Reactant: L-\$g\$-glutamyl->-L-cysteinyll->-glycine, water, (R)-5-((S)-1,2-dihydroxy-ethyl)-furan-2,3,4-trione
Product BRN: 84272
Product: (R)-5-((S)-1,2-dihydroxy-ethyl)-3,4-dihydroxy-5H-furan-2-one
No. of Reaction Details: 1

Reaction Details:

RX

Reaction RID: 5708388.1
Reaction Classification: Chemical behaviour
Note(s): Handbook
Reference(s):
1. Parrot; Dambrine, Bull.Soc.Chim.Biol., CODEN: BSCIA3, 38, <1956>, 1355, 1359
2. Borsook et al., J.Biol.Chem., CODEN: JBCHA3, 117, <1937>, 237, 270
3. Kohman; Sanborn, Ind.Eng.Chem., CODEN: IECHAD, 29, <1937>, 1195, 1199

Reaction:

RX

Reaction ID: 5708387
Reactant BRN: 3587155, 83002
Reactant: water, L-gulonic acid-4-lactone
Product BRN: 84272
Product: (R)-5-((S)-1,2-dihydroxy-ethyl)-3,4-dihydroxy-5H-furan-2-one
No. of Reaction Details: 3

Reaction Details:

RX

Reaction RID: 5708387.1
 Reaction Classification: Chemical behaviour
 Other Conditions: Einwirkung von Roentgen-Strahlen
 Note(s): Handbook
 Reference(s):
 1. Coleby, Chem.Ind.(London), CODEN: CHINAG, <1957>, 111

RX

Reaction RID: 5708387.2
 Reaction Classification: Chemical behaviour
 Other Conditions: Einwirkung von γ -Strahlen
 Note(s): Handbook
 Reference(s):
 1. Coleby, Chem.Ind.(London), CODEN: CHINAG, <1957>, 111

RX

Reaction RID: 5708387.3
 Reaction Classification: Chemical behaviour
 Other Conditions: Einwirkung von Kathoden-Strahlen
 Note(s): Handbook
 Reference(s):
 1. Coleby, Chem.Ind.(London), CODEN: CHINAG, <1957>, 111

Reaction:

RX

Reaction ID: 5708386
 Reactant BRN: 3587155, 11310
 Reactant: water, (R)-2-((S)-1,2-dihydroxy-ethyl)-4-hydroxy-5-methoxy-furan-3-one
 Product BRN: 84272
 Product: (R)-5-((S)-1,2-dihydroxy-ethyl)-3,4-dihydroxy-5H-furan-2-one
 No. of Reaction Details: 1

Reaction Details:

RX

Reaction RID: 5708386.1
 Reaction Classification: Chemical behaviour
 Note(s): Handbook
 Reference(s):
 1. Haworth et al., J.Chem.Soc., CODEN: JCSOA9, <1937>, 829, 832

Reaction:

RX

Reaction ID: 5708385
 Reactant BRN: 1098214, 28323
 Reactant: hydrochloric acid, 04,06-isopropylidene-L-xylo-<2>hexulosonic acid butyl ester
 Product BRN: 84272
 Product: (R)-5-((S)-1,2-dihydroxy-ethyl)-3,4-dihydroxy-5H-furan-2-one
 No. of Reaction Details: 1

Reaction Details:

RX

Reaction RID: 5708385.1
 Reaction Classification: Chemical behaviour
 Note(s): Handbook
 Reference(s):
 1. Patent: Chem. Fabr. Naarden US 2491933 1946

Reaction:

RX

Reaction ID: 5708384
Product BRN: 84272
Product: (R)-5-((S)-1,2-dihydroxy-ethyl)-3,4-dihydroxy-5H-furan-2-one
No. of Reaction Details: 1

Reaction Details:

RX

Reaction RID: 5708384.1
Reaction Classification: Preparation (half reaction)
Reference(s):

1. Wechsler; Schaltyko, J.Gen.Chem.USSR (Engl.Transl.), CODEN: JGCHA4, 24, <1954>, 1403,1404-1407, Zh.Obshch.Khim., CODEN: ZOKHA4, 24, <1954>, 1425, Chem.Abstr.(7545), <1955>
2. Weksler; Schaltyko, J.Gen.Chem.USSR (Engl.Transl.), CODEN: JGCHA4, 26, <1956>, 1639, Zh.Obshch.Khim., CODEN: ZOKHA4, 26, <1956>, 1456, Chem.Abstr.(14551), <1956>
3. Harris et al., J.Amer.Chem.Soc., CODEN: JACSAT, 94, <1972>, 7570
4. Ogawa et al., Carbohydr.Res., CODEN: CRBRAT, 51, <1976>, C1,C2-C4
5. Ferrier; Furneaux, J.Chem.Soc.Chem.Comm., CODEN: JCCCAT, <1977>, 332
6. Bakke; Theander, J.Chem.Soc.D, CODEN: CCJDAO, <1971>, 175
7. Kitahara et al., Agric.Biol.Chem., CODEN: ABCHA6, 38, <1974>, 2189
8. Andrews et al., J.Chem.Soc.Chem.Comm., CODEN: JCCCAT, <1979>, 740
9. Ferrier; Furneaux, J.Chem.Soc.Perkin Trans.1, CODEN: JCPRB4, <1977>, 1996,2000
10. Bakke; Theander, J.Chem.Soc.D, CODEN: CCJDAO, <1971>, 175
11. Bakke; Theander, J.Chem.Soc.D, CODEN: CCJDAO, <1971>, 175
12. Bogoczek, Zesz.Nauk.Politech.Slask.Chem., CODEN: ZNSCAM, 51, <1970>, 1,56-58
13. Patent: Takeda Chem. Ind. Ltd. DE 2127659 1970, Chem.Abstr., 76(59982u), <1972>
14. Dietz, Justus Liebig's Ann. Chem., CODEN: JLACBF, 738, <1970>, 206
15. Ferrier; Furneaux, J.Chem.Soc.Chem.Comm., CODEN: JCCCAT, <1977>, 332
16. Ferrier; Furneaux, J.Chem.Soc.Chem.Comm., CODEN: JCCCAT, <1977>, 332
17. Ogawa et al., Carbohydr.Res., CODEN: CRBRAT, 51, <1976>, C1,C2-C4

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